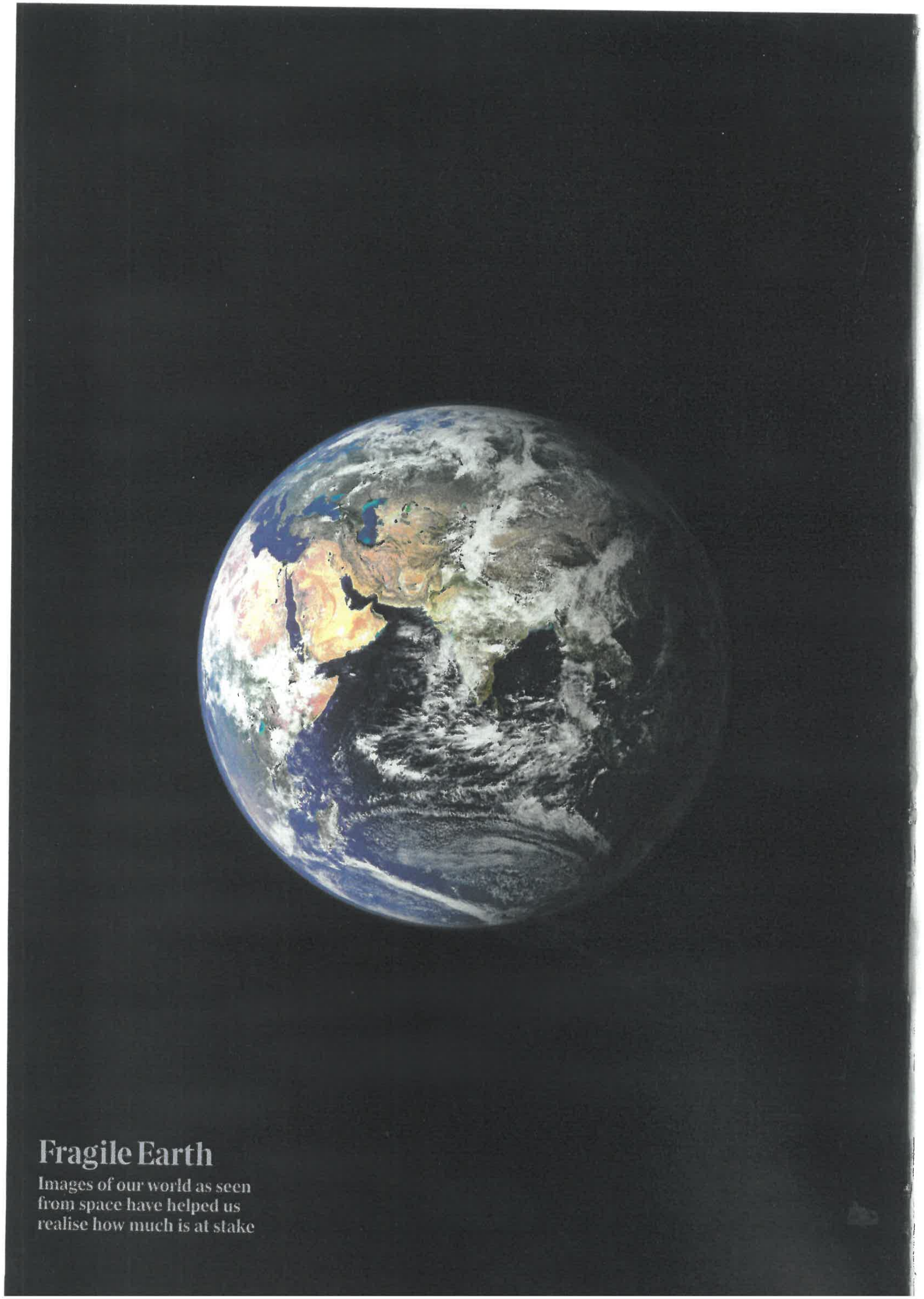
'If we lose the battle against tropical deforestation, we lose the battle against climate change. Please join me in trying to save the rainforests – for the sake of our children and grandchildren.'

The Prince of Wales

RAIN FORESTS THE BURNING ISSUE

YOUR FREE GUIDE

THE PRINCE'S RAINFORESTS PROJECT



Fragile Earth

Images of our world as seen from space have helped us realise how much is at stake

The Prince of Wales

Mankind has a genius for survival, often only manifested at the eleventh hour. Now is the time when we must act together to avoid the catastrophe of climate change. Saving the rainforests will be an essential first step. Deforestation is one of the largest contributors to climate change. Rainforests provide countless services to humanity, often unnoticed. This book explains what we can do to save these forests before it is too late.

Life support for the planet

Over half of the world's plant and animal species are found in rainforests

The Amazon forest releases 20 billion tonnes of moisture every day, helping to water crops thousands of miles away

Deforestation releases more carbon dioxide into the atmosphere than all the cars, planes and ships put together

Healthy rainforests absorb up to 10% of man's carbon emissions each year

See chapter 1
pages 12–25

Our destructive demands
Farmers in Brazil can make $3,000 per hectare by clearing forest and growing soybeans for export
Over half of deforestation in Africa is carried out by poor farmers practising subsistence agriculture
43 of the 100 best-selling products in British supermarkets contain palm oil, linked to rainforest clearance in Southeast Asia
15 million hectares of tropical forests are lost every year - an area larger than the size of England
See chapter 2
pages 26–35

We must act now

Rainforests will practically disappear in 50 years if no action is taken

Up to €25 billion may be needed over the next five years to tackle the problem

Critical decisions on how to value rainforests must be taken by the end of 2009

How you shop could help determine the future of the rainforests

See chapter 3
pages 36–45

The destruction of the rainforests threatens us all. We depend on these forests for our climate, our water, our food and the natural systems that keep us healthy.

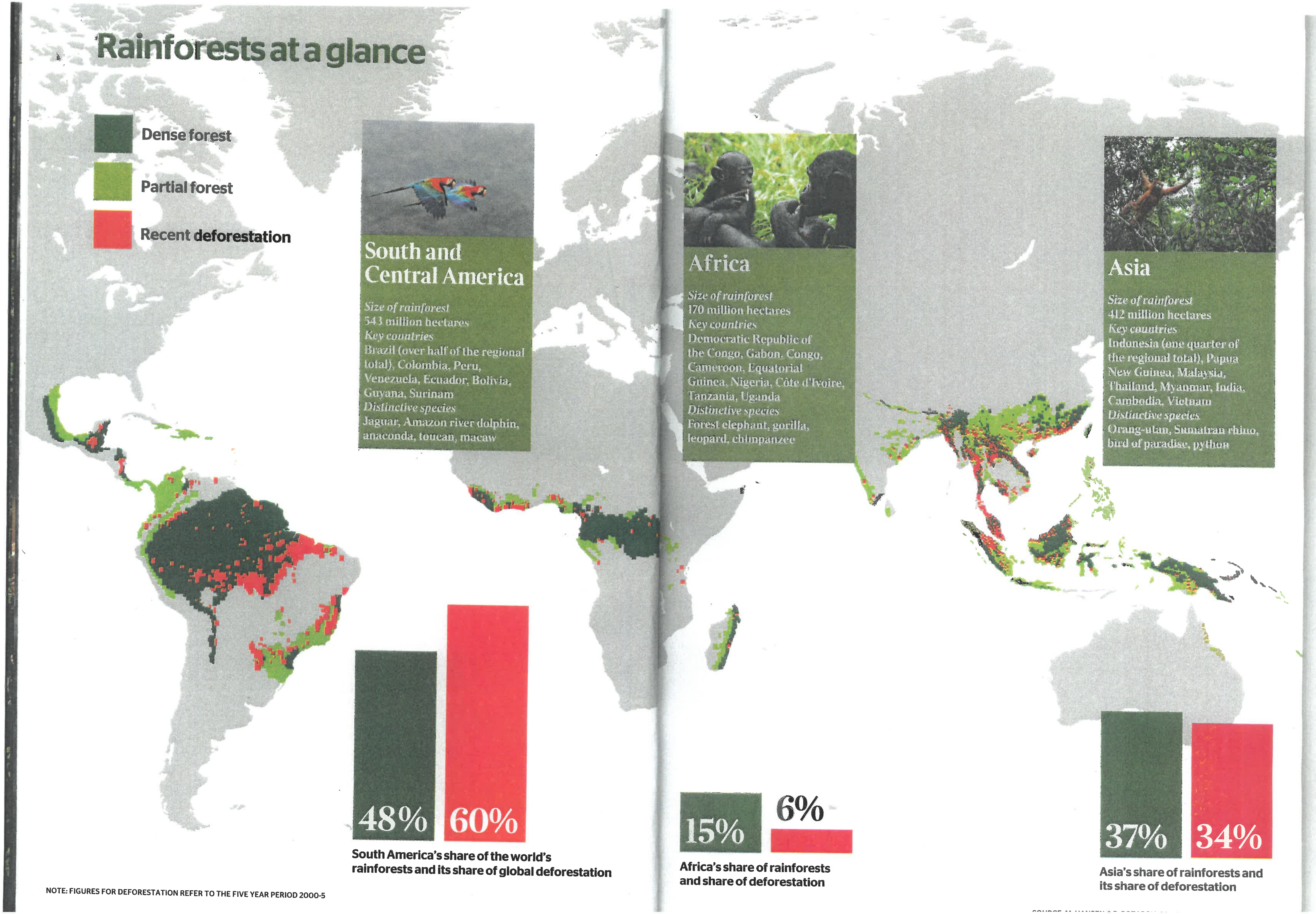
We are all part of the problem. Global demand for food, wood and industrial materials fuels the chainsaws and the bulldozers that eat up the forest frontier.

But you can play a part in the solution: You can choose to buy the right products, help organisations active in conservation, and encourage governments to value the forests.

Help create a climate for change by adding your name at www.rainforestSOS.org or text SOS and your full name to 60777.*

RAINFOREST SOS
rainforestSOS.org

Rainforests at a glance



South and Central America

Size of rainforest
543 million hectares
Key countries
Brazil (over half of the regional total), Colombia, Peru, Venezuela, Ecuador, Bolivia, Guyana, Surinam
Distinctive species
Jaguar, Amazon river dolphin, anaconda, toucan, macaw

Africa

Size of rainforest
170 million hectares
Key countries
Democratic Republic of the Congo, Gabon, Congo, Cameroon, Equatorial Guinea, Nigeria, Côte d'Ivoire, Tanzania, Uganda
Distinctive species
Forest elephant, gorilla, leopard, chimpanzee

Asia

Size of rainforest
412 million hectares
Key countries
Indonesia (one quarter of the regional total), Papua New Guinea, Malaysia, Thailand, Myanmar, India, Cambodia, Vietnam
Distinctive species
Orang-utan, Sumatran rhino, bird of paradise, python

NOTE: FIGURES FOR DEFORESTATION REFER TO THE FIVE YEAR PERIOD 2000-5

Chapter 1

Why rainforests matter

Leap of faith
The crested forest toad, one of over 1,000 species of frog and toad that live in the Amazon basin

Climate change is the greatest threat mankind has ever faced

Halting tropical deforestation must be part of the response

Rainforests may seem far away but they support us all. Their most vital role today is in the fight against global warming. The destruction of the rainforests will propel us along a dangerous path; their preservation can help us turn towards a safer future.

To appreciate the value of rainforests, we need to understand a little about the greenhouse effect. Greenhouse gases get a bad press but we could not survive without them. Energy reaches the surface of the earth in the form of sunlight, and is radiated back to space in the form of infrared heat. Greenhouse gases, the most important of which is carbon dioxide (CO_2), trap some of this heat, keeping the earth's temperature at a level that is just right for humans, animals and plants. These insulating gases make up less than one-tenth of a per cent of the atmosphere but without them our planet would be as cold as Mars.

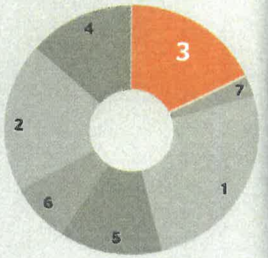
The problem is that we are dangerously thickening this layer of insulating gases. Burning fossil fuels – in cars, buildings, power stations or factories – releases vast quantities of CO_2 and other powerful greenhouse gases into the atmosphere. For the past 650,000 years the CO_2 content of the air has been remarkably constant, producing the stable climatic conditions that allowed human civilisation to evolve. But CO_2 levels have increased by one-third in the past 200 years and keep rising. As a result, temperatures are going up too. If we keep on as we are, our world will be four to six degrees Celsius hotter by the end of this century.

A hot and carbonated world will bring disastrous consequences. Sea-level rises will drown cities, droughts and floods will decimate agricultural production, violent storms will become more frequent, and the migration of millions of environmental refugees could lead to conflict and war. The planet will survive; our way of life may not. Therefore, we must do everything in our power to reduce carbon emissions and to prevent our climate getting out of control.

Some people might be surprised to hear that rainforests will be critical in the struggle against climate change. But these forests are vast stores of carbon: towering trees, up to 200ft high, store huge amounts in their trunks, branches and leaves. The roots and soils below contain even more carbon,

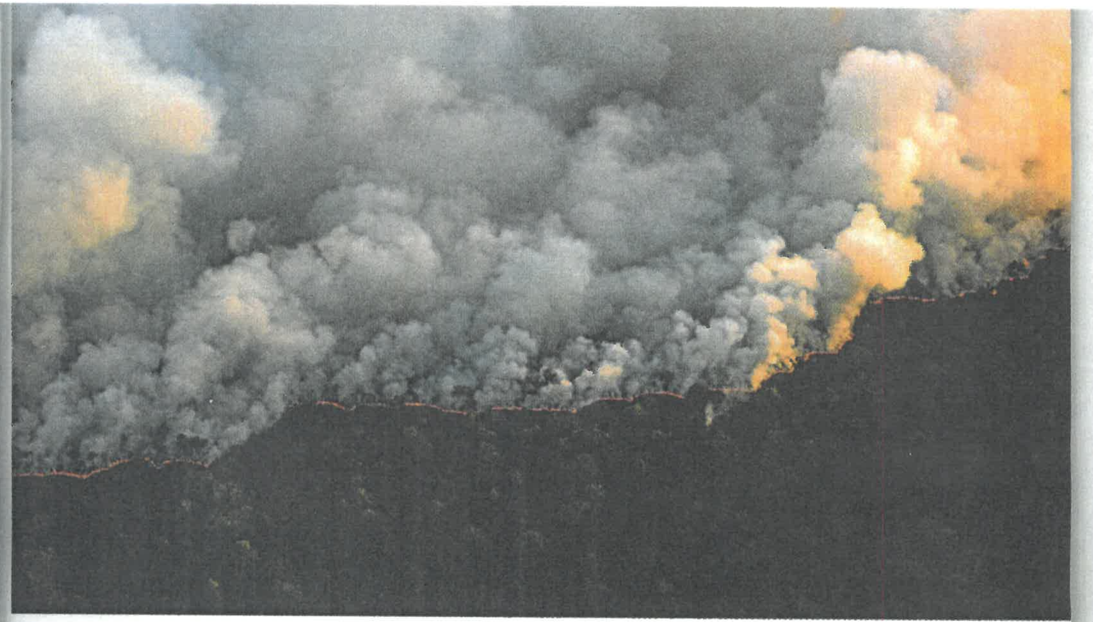
Where carbon emissions come from

Mankind's contributions to greenhouse gases, 2004



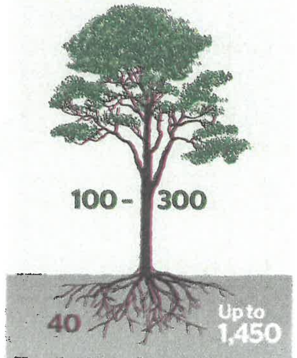
1. Energy supply (25.9%)
2. Industry (19.4%)
3. Forestry (17.4%)
4. Agriculture (13.5%)
5. Transport (13.1%)
6. Residential and commercial building (7.9%)
7. Other

SOURCE: IPCC (2007) AR4



The front line of climate change: Brazilian rainforest is burned to make way for cattle

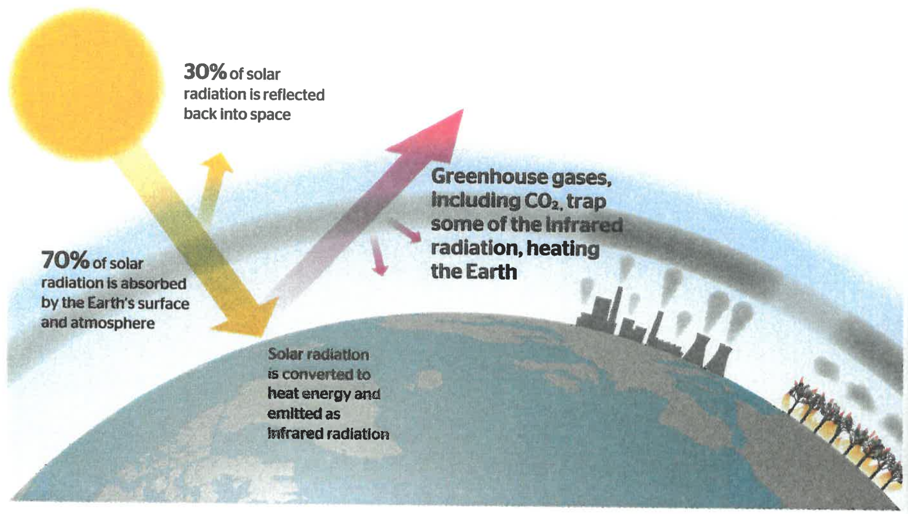
Rainforests act as a carbon store



Trunks, branches and leaves contain 100-300 tonnes of carbon per hectare. Below ground, roots can hold over 40 tonnes. The soil can hold even more: peatland stores approximately 1,450 tonnes of carbon per hectare.

SOURCE: IPCC, TERRESTRIAL CARBON GROUP

How greenhouse gases lead to the warming of the planet



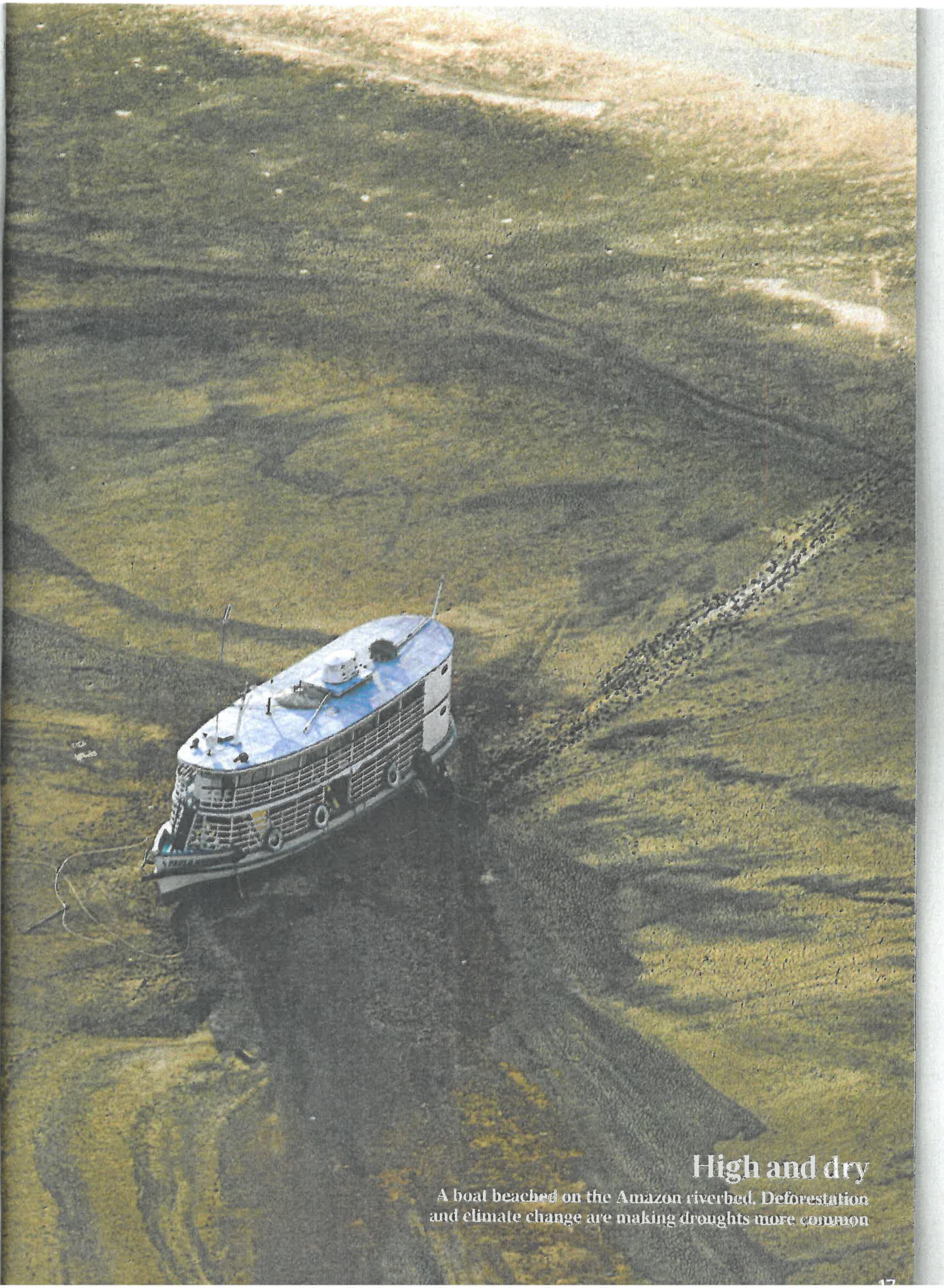
especially in the rich, black peatlands found in some countries. There is as much carbon stored in the trees of the world as there is in the whole atmosphere. Interfering with this natural carbon 'bank' will have drastic consequences.

Deforestation in tropical countries is in itself a major cause of greenhouse gas emissions. When trees and soils are burned, they release carbon which goes straight up in smoke. More carbon comes from the gradual decomposition of dead plant matter and the oxidation of soils, especially peat. Overall, the destruction of forests accounts for about 17 per cent of man-made emissions each year. This is more than the entire transport sector – all the cars, aeroplanes, trains and ships in the world put together – and more than all the emissions produced by either the US or China.

To prevent catastrophic climate change we need to reduce drastically our carbon emissions – right now. This will involve changing the way we generate energy, manufacture goods, grow food and move around. But halting deforestation must also be part of the solution. Studies show that it could deliver one-third of the total

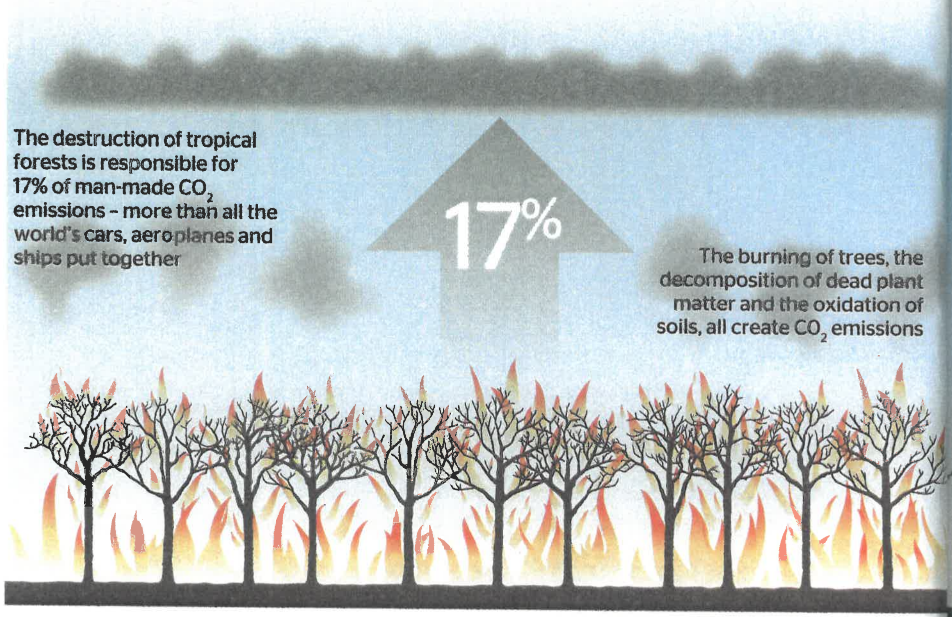
Rainforest supporter

'I've seen the richness of the Amazon forest and the horrifying sight of the bare red earth where it had been torn away... One person might not be able to change things but together we can.'
Stephen Fry
— Sign up, page 46

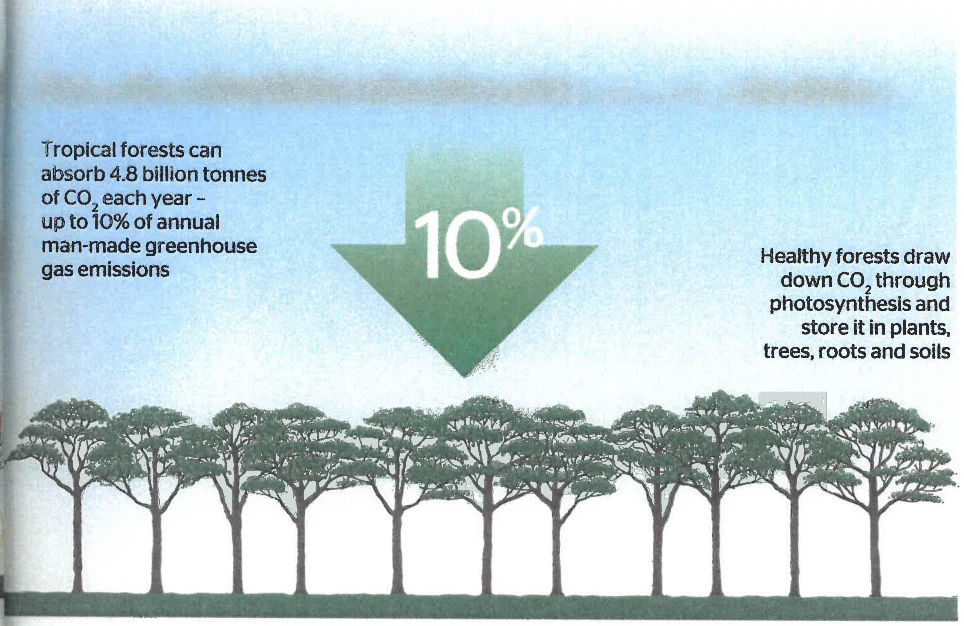


High and dry
A boat beached on the Amazon riverbed. Deforestation and climate change are making droughts more common

Forest destruction, a source of carbon



Healthy forests act as carbon sinks



reduction in emissions the world will need to make by 2020 to avoid catastrophic global warming. And this can be done cheaply and quickly compared to the introduction of measures that require technological innovation or wholesale changes in infrastructure.

But that is not the full story. Scientists are discovering that healthy rainforests keep on absorbing carbon dioxide from the atmosphere. They draw it down through photosynthesis and store it in trees, plants and soils. One study estimates that the forests may store an extra 4.8 billion tonnes of CO_2 each year, close to 10 per cent of the emissions caused each year by human activities. As we pump more and more pollution into the air, trees do their best to take it out.

If we destroy the forests we will lose this natural balancing mechanism, and our CO_2 emissions will run even further out of control. Conversely, if we save the forests we will preserve a mechanism that can remove some of the excess CO_2 put into the atmosphere by humans. Governments around the world are now channelling billions of dollars into developing carbon capture and storage technologies for coal-fired power stations. Rainforests do the same for free.

Two years ago, a group of scientists came to The Prince of Wales and warned that the world was running out of time to save these forests. As a result, The Prince's Rainforests Project was created to bring together governments, businesses and civil society to find a solution. This book contains the conclusions of this project: some are alarming, some more hopeful.

The greenhouse effect does not respect national boundaries. The whole world must move towards a low-carbon future if we are to avoid the calamities of climate change. *It will be impossible to achieve this goal without saving tropical forests.* The action we take now will determine whether our children and grandchildren will thank us for bequeathing them a better planet – or whether they will have to grapple with natural destruction and human conflict caused by runaway climate change.

Rainforest supporter

'Rainforests are the lungs of our planet, I don't want our planet to have asthma.'
Robin Williams
— Sign up, page 46

Rainforests provide other priceless services to the world

Losing them could affect our food, water and health

Apart from absorbing carbon dioxide and regulating our climate, rainforests provide many other vital services. The next time you walk into a pharmacy, buy food in a supermarket, or feel drops of rain on your umbrella, you may unwittingly be experiencing the benefits of forests thousands of miles away.

Rainforests are the most biologically rich ecosystems on our planet, the product of tens of millions of years of evolution. Although they cover only five per cent of the earth, they contain over half of the world's animal and plant species. But there is much we don't know – scientists estimate that so far they have been able to study just one per cent of rainforest species.

This biodiversity has great medical and economic value. Rainforests have been the source of compounds vital to the discovery of modern medicines. According to the US National Cancer Institute, more than 70 per cent of plants with anti-cancer properties are found here. Agricultural scientists have also used wild strains of rainforest crops to increase yields and resistance to pests and diseases in cultivated varieties. Given

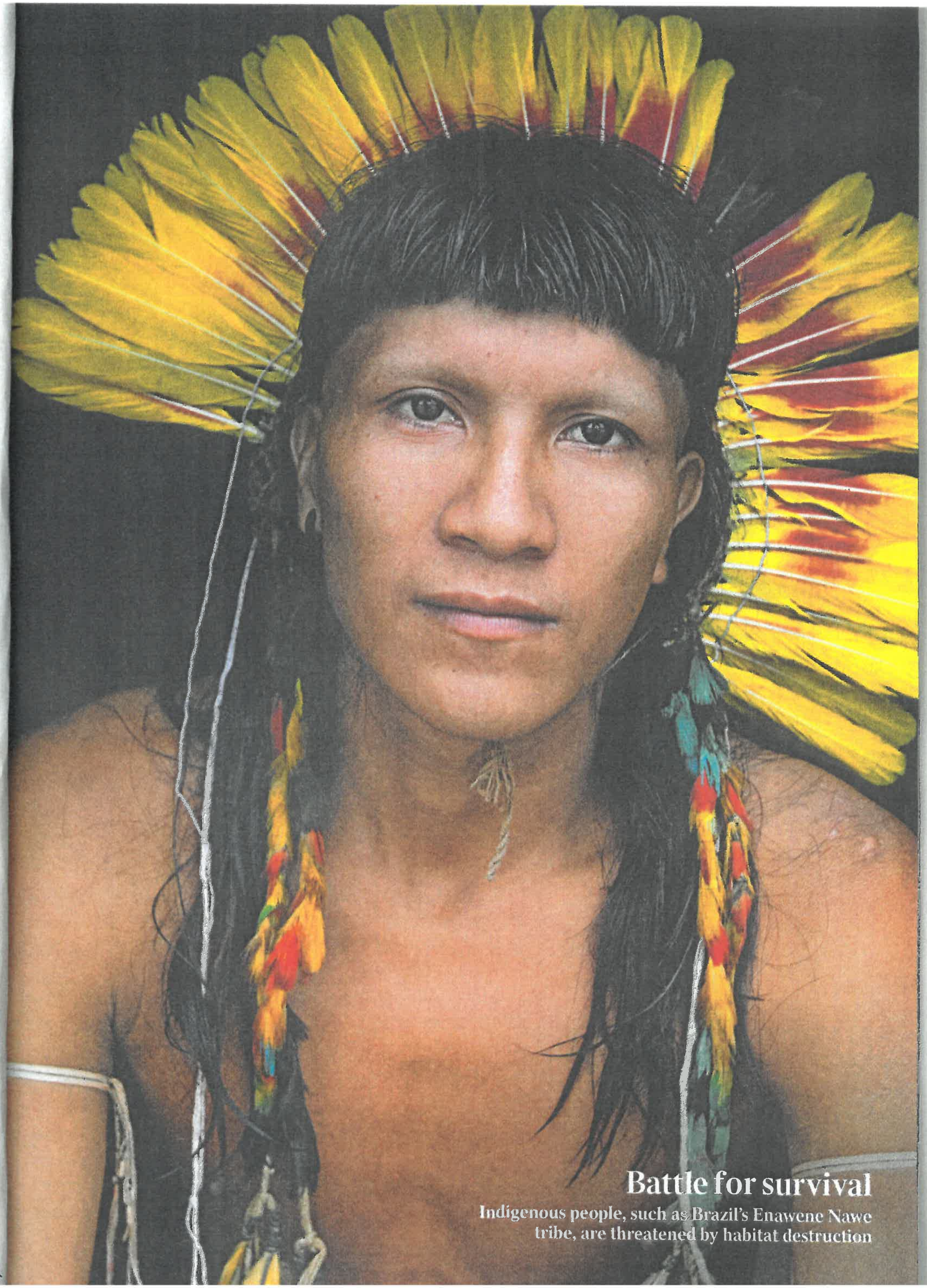
Rainforests: a treasure trove of biodiversity

At least **6 million** different species live in the world's rainforests

A single hectare of tropical rainforest may contain more than **480** tree species

99% of rainforest species have still to be studied by science

137 species of plants, animals and insects become extinct every day in the rainforest



Battle for survival

Indigenous people, such as Brazil's Enawene Nawe tribe, are threatened by habitat destruction

Flying rivers

Rainforests help generate the rainfall on which we rely

Researchers at the Brazilian Space Research Institute are discovering that rainforests help create rainfall thousands of miles away. The Amazon forest evaporates some eight trillion tonnes of water into the atmosphere each year, that's 4,000 times the entire annual water requirement of the US.

Clouds are carried south, producing rains for the farms of Brazil and Argentina and underpinning a multi-billion dollar agricultural complex that helps feed the world (while also sustaining Brazil's hydro-electric power system). The Amazon may provide a similar service to the Midwest region of the US.

2005 brought a glimpse of what might happen if the forest disappeared: drought in the Amazon led to crop failures and power cuts further south. A world without the rainforests could be a dry and hungry one.

the density and diversity of life in the rainforests, this should come as little surprise.

Worryingly, this biodiversity is threatened by deforestation. It is estimated that 137 species of plants, animals and insects are wiped out every day. We are losing a treasure trove of potential innovations, often before they have been properly studied. Evolution will not make good these extinctions for a million years, but the losses could be felt within a generation.

The richness of life in the rainforests, from the broadest tree to the smallest organic particle, also helps to regulate water cycles and rainfall patterns. During tropical storms, roots hold the soil together and absorb water. During dry periods, trees transpire vast amounts of water vapour from their leaves. They also release tiny particles, called volatile organic compounds, around which water droplets condense to form clouds and eventually rain. The rainforest acts like a huge sponge, absorbing water when it is plentiful and releasing water when it is scarce.

This action prevents catastrophic flooding and soil erosion during wet seasons and ensures a regular flow of clean water during dry seasons: this is why vast river systems, such as the Amazon and the Congo, never run completely dry. In contrast, deforestation can lead to flash floods and soil erosion, the drying of rivers and the silting of irrigation channels, with devastating consequences for those who live in these regions.

This water regulating effect can also be felt much further away. Moisture from the forest is carried by high-altitude winds, falling as rain on centres of population and farming thousands of miles from the forest. Recent studies indicate that the Amazon rainforest helps to water the agricultural heartlands of South America and parts of the US, while those of Southeast Asia relay moisture to northern Australia.

If we lose these gigantic water pumps, agricultural production in those regions will suffer. This has consequences for us all. It is a cliché to say that we live in an interconnected world – but true nonetheless. Some of the regions that benefit from these rains are major food exporters and vital cogs in the global economy. Any loss of productivity could

In the balance: An orang-utan rehabilitation centre on the Indonesian island of Sumatra

The destruction of the rainforests, however, will have the most damaging consequences for those who live deep within them. There are approximately 60 million indigenous people who rely on forests for their way of life. The Amazon basin alone is home to over 300 different tribes. Although their populations are small, indigenous cultures embody great wisdom and diversity within the human family.

Deforestation can be a catastrophe for these communities. The encroachment of outsiders can lead to violence, land theft, the abuse of rights, and the destruction of the natural resources that provide sustenance. The introduction of 'new' diseases is sometimes the most devastating result. We have a duty to respect the rights of these people and to ensure that our demands do not lead to their oppression.

The rainforests have been likened to global utilities. We rely on them for our water, our food and our climate. A world without rainforests would be desperately precarious. We do not yet understand all the ramifications, but this is an even better reason to take action to protect these forests.

Nature's medicine cabinet

From forest floor to surgery door…

Most people who have heard of curare know it as an arrow poison of indigenous peoples in South America. It is derived from woody vines found in the rainforest. What is less well known, is that the *curare* compound D-Tubocurarine has been used as a muscle relaxant in surgery since the 1940s. More recently, scientists have synthesised *curare*-like agents, such as pancuronium, which have a similar pharmaceutical function but fewer side effects. Pancuronium is one of a number of medicines to have been developed as a result of rainforest research.

Eyewitness

The Prince's Rainforests Project has sought the best advice from around the world. Here three experts explain why the extraordinary habitat of the rainforest matters so much

Chief Almir of the Suruí

Environmentalist and Chief of the Amazon tribe, the Suruí

'If we lose our forest we lose everything – our culture, our art, our beliefs and the spirits of our ancestors. I have been trying to stop the illegal loggers in our territory for 17 years. We have achieved a lot in that time, establishing an association and legally securing our reserve, but we still need help from the authorities in stopping the illegal logging. We have established a 50-year development plan but urgently need the financial means to implement our association's plan. If we let deforestation continue unchecked the Suruí will not exist as a people in a few decades' time.'

Sir David Attenborough

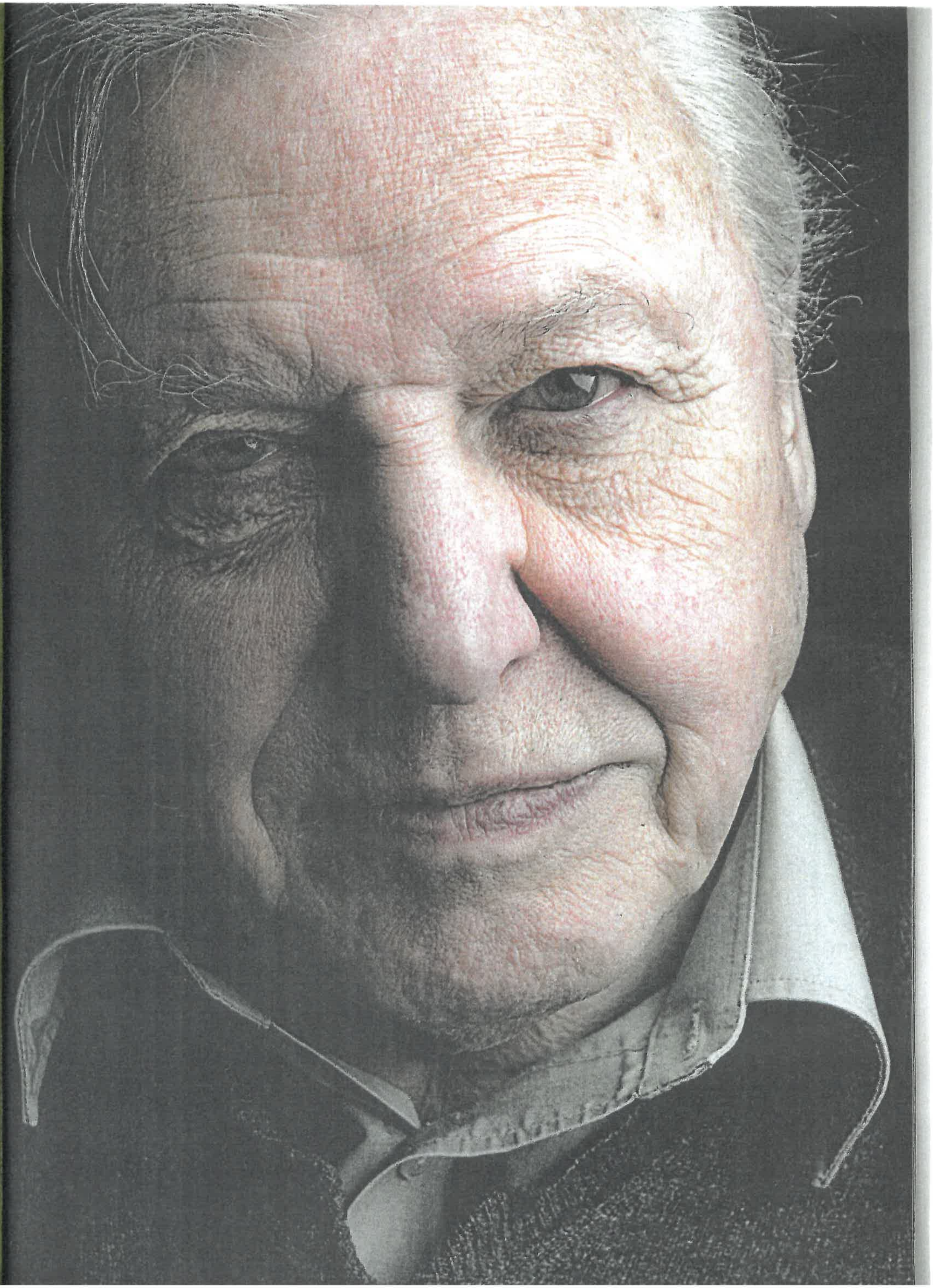
Celebrated naturalist and broadcaster

'Over the last half century I seem to have visited a tropical rainforest pretty much every year. They are breathtakingly wonderful things, centuries old. In the past man didn't have the mechanisms to cut down trees wholesale; now we can knock down a tree that took 200 years to grow in half an hour. We used not to understand much about the ecology of the rainforests, but now we do. We now know they are essential for our own welfare and we realise that they are key to the world's climate. What happens in the rainforests affects us here and what we do here affects what happens in the rainforests. So we have no excuses. We have to take this opportunity to protect these forests. If we do not act we are betraying the generations that come after us.'

Dr Matthew Hansen

Co-director of the Geographic Information Science Centre at South Dakota State University and expert in satellite-mapping of deforestation

'Once a rainforest is gone, there is no way to bring it back. Clearing forest in Mato Grosso, Brazil, for example, results in a landscape similar to that found in Iowa in the United States: the richest habitat in the world is replaced with an agricultural monoculture. In Indonesia, rare species such as the Sumatran tiger retreat to ever smaller forest patches. Nearly half of all lowland forest in Sumatra and Kalimantan has been cleared in the past 15 years. Biodiversity is only one of the many ecosystem services provided by rainforests. They help regulate our climate, protect water resources and store carbon. Finding a way to value these benefits is our challenge. Satellite imagery will document whether such efforts succeed or fail.'



Chapter 2

Why rainforests are being destroyed

Scorched earth

In Pará State, Brazil, rainforest is cleared to make way for agriculture

Deforestation occurs because it is economically rational

Our consumption helps fuel the destruction

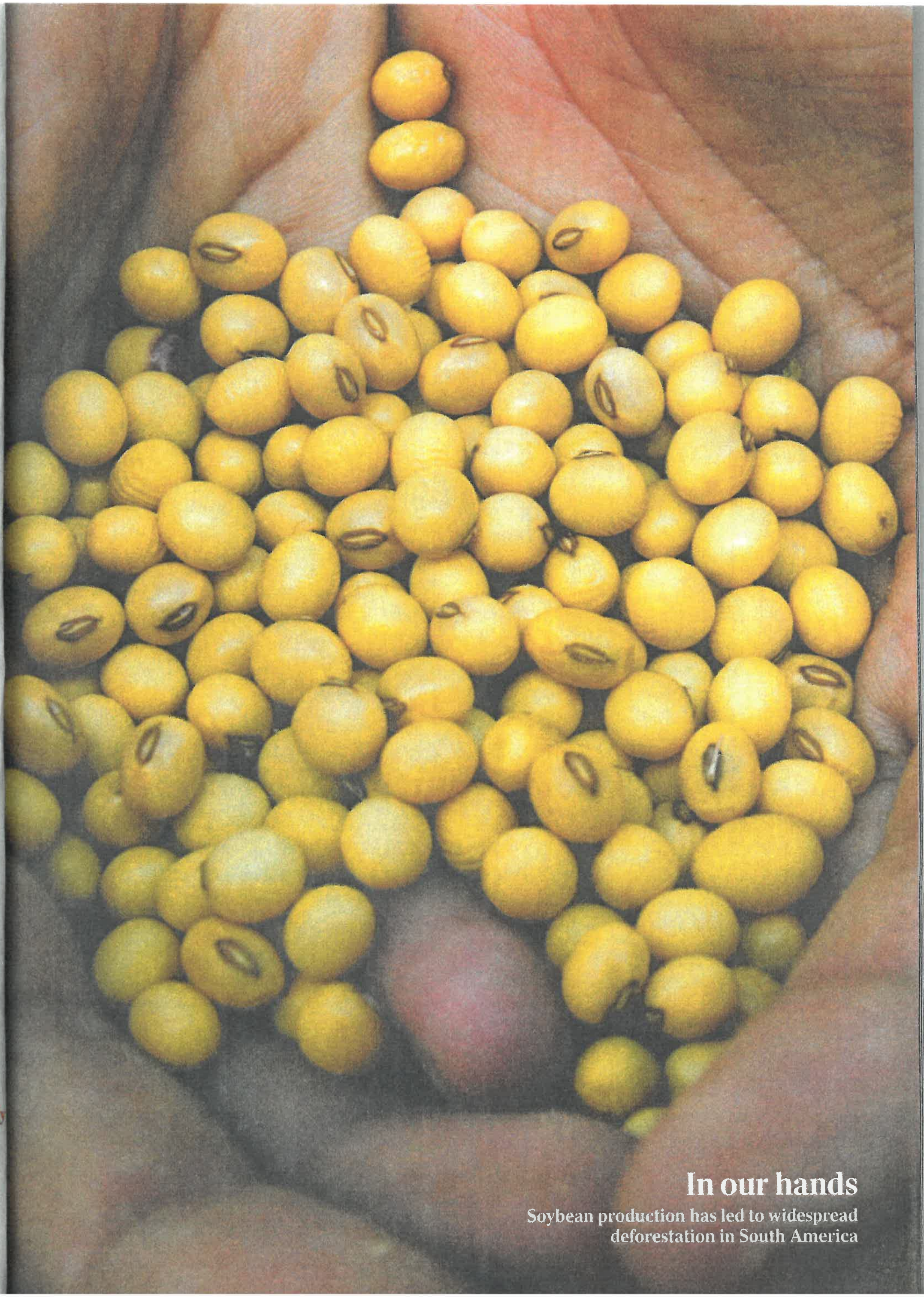
Walk into a shop and you may well see products that benefit from the environmental services provided by rainforests. But you will also see, and probably buy, products that help drive the destruction of the forests.

This was not always the case. Traditionally, the lion's share of deforestation was associated with the subsistence activities of local people. Poverty and land scarcity pushed farmers to clear native forest for agriculture, often using 'slash and burn' techniques. In addition, people chopped down trees to provide firewood, charcoal or timber for construction. The products generated were either consumed by families or traded locally, but they did not reach foreign markets. In some regions, such as Central Africa, these sorts of subsistence activities are still the most important causes of deforestation – which is one of the reasons why the rates of forest loss in Africa remain lower than in other regions.

Increasingly, however, more and more deforestation is being driven by commercial operations linked to global markets. In Indonesia and Brazil, which accounted for nearly two-thirds of tropical rainforest

Rainforest supporter

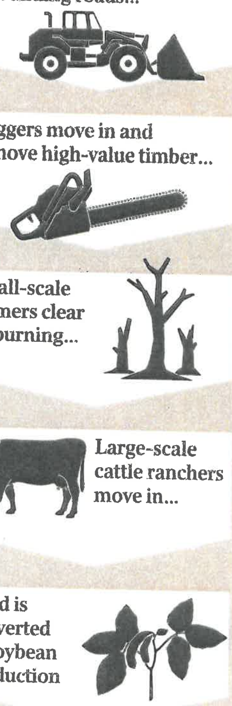
'We can cut about 20% of greenhouse gas emissions simply by stopping the burning of rainforests. It's a very simple thing, it takes political will, that's all.'
Harrison Ford
— Sign up, page 46



In our hands
Soybean production has led to widespread deforestation in South America

The chain of deforestation

How rainforest in South America can succumb to human demands



Miners open up the forest by building roads...

Loggers move in and remove high-value timber...

Small-scale farmers clear by burning...

Large-scale cattle ranchers move in...

Land is converted to soybean production

The final high-value use creates an incentive to clear more forested land, and the process begins again.

loss between 2000 and 2005, a growing proportion of deforestation is caused by export-led agricultural expansion. Palm oil, beef and soybeans are the key commodities. In other areas, cocoa, coffee and rubber production play a role, while mining and biofuels can have an indirect impact on forest loss.

The wood products industry is also a significant driver of the destruction. Valuable trees are logged for hardwood timber and whole areas are clear-felled for pulp and paper factories. Much of the tropical timber – perhaps over half – is harvested illegally.

Rather than having a single cause, deforestation sometimes occurs because of the complex interplay between these activities. For instance, land can be opened up by logging companies with roads, then slashed and burned by migrating subsistence farmers, cultivated for a few years, sold over to cattle ranchers and then bought by soybean farmers. Each stage can generate very different economic returns: the small-scale farmer may earn $2 or $3 per hectare, the cattle rancher $400 and the soybean farmer $3,000. The potential to convert the land to more valuable uses motivates each individual, as well as the land speculators who act as intermediaries.

The dynamics of deforestation are local, but the commodities go to feed global demands. Much of the beef, soya and palm oil produced in tropical countries is exported. It ends up on our supermarket shelves, in our restaurants and, in the case of palm oil used to produce biodiesel, in the fuel-tanks of our cars. Usually, we have no idea where the ingredients come from and are blissfully unaware of the impact of our purchasing decisions. But we are, literally, eating the forests. Growing demand from fast-developing economies such as China turbo-charges this consumptive process, while the relentless growth in the world population – expected to increase from six to nine billion by 2050 – provides further impetus.

That is why the world is losing so much tropical forest. Fifteen million hectares are lost each year – an area larger than the size of England. About half of this is rainforest. We have lost one-third of the rainforests in the past 50 years and, at current rates, we could lose almost all of the remaining forest in the next 50 years. Whereas in the past small amounts of forest were cleared by hand by subsistence farmers over periods of hundreds of years, now large areas are bulldozed or burned to the ground in months.

It is not fair to blame the people who are operating the bulldozers and the chainsaws. Tropical countries

Industrial scale: one of the largest pulp mills in the world is located in Sumatra, Indonesia

Herd instinct: Despite efforts to minimise its impact, cattle farming threatens rainforests

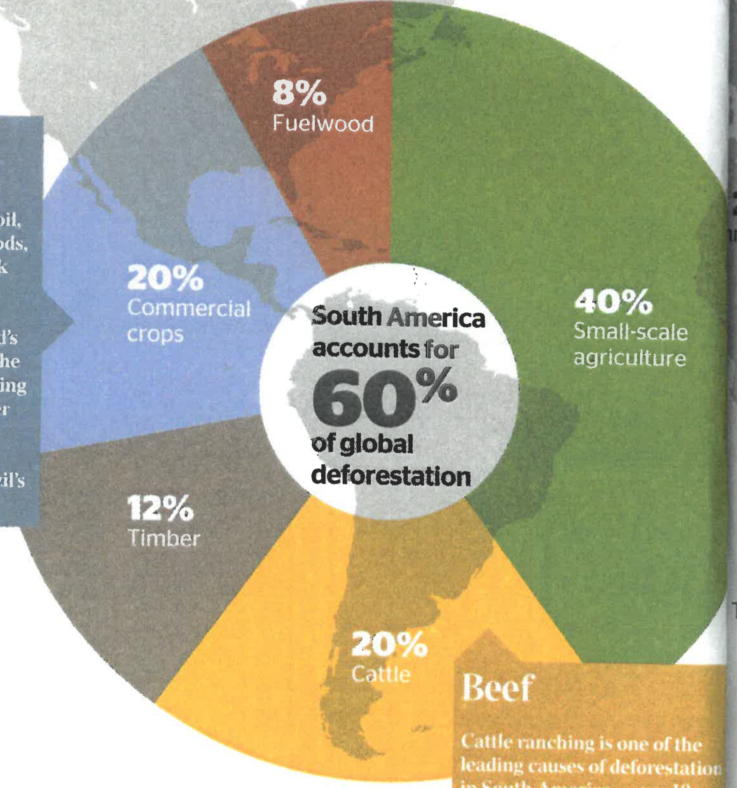
Rainforest supporter

'We've been through an Industrial Revolution which transformed society. Now we must go though a green revolution. We have learned how to destroy rainforests, now we must learn to save them.'
Ben Fogle
— Sign up, page 46

Global demand drives deforestation

Soya

Soybeans are very versatile. They are used in vegetable oil, as a protein substitute in foods, and increasingly as livestock feed for cows, pigs and chickens. Brazil is poised to overtake the US as the world's largest soybean producer. The soybean fields are encroaching directly on the forest frontier but also displacing cattle ranching, moving it further into the forest. **32%** of Brazil's soya exports go to the EU.

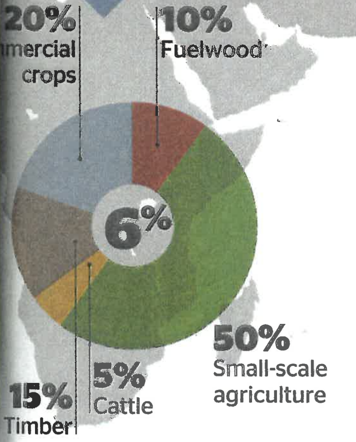


Beef

Cattle ranching is one of the leading causes of deforestation in South America – over 10 million hectares of forest have been cleared for this purpose in the past decade. Brazil is the world's largest exporter of beef, with exports valued at over **$4 billion** annually. The EU consumes **34%** of this trade, although consumers are often not aware because regulations allow imported meats packaged in the EU to be labelled as European.

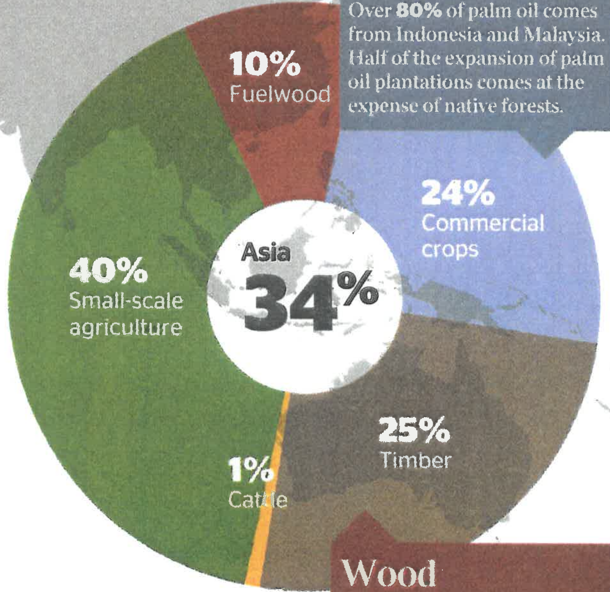
Cocoa

The origins of the next chocolate bar you eat may well lie in West Africa, where **70%** of the world's cocoa is produced. Over **6 million** farmers depend on cocoa trees for their livelihoods and demand for cocoa has grown by **3%** per year over the last century. This has contributed to deforestation in countries such as Côte d'Ivoire, Ghana, Indonesia and Cameroon.



Palm oil

Alongside soya, palm oil is the most lucrative commodity produced on deforested land. Palm oil is used in a huge variety of foods and cosmetic products – tests showed that it was contained in **43** of the 100 best-selling branded products in British supermarkets in 2008. Demand for biofuels has created a new market. Over **80%** of palm oil comes from Indonesia and Malaysia. Half of the expansion of palm oil plantations comes at the expense of native forests.



Wood

Rainforests are most obviously a source of wood, cut to make timber or pulped to produce paper and packaging. Global trade in tropical timber is valued at approximately **$16 billion**, of which half is exported to China, where it is turned into the furniture, flooring or paper that you might see in a shop in Europe or North America. The bulk of this timber is harvested unsustainably and/or illegally.

SOURCE: BLASER & ROBLEDO (2008), MULTIPLE REPORTS

are simply acting rationally, responding to the economic incentives that our globalised world creates. Deforestation allows rural populations to practise agriculture, landless people to acquire a patch of their own, companies to engage in profitable commodity production, and governments to generate tax revenue and foreign exchange. It occurs mostly in poor countries – people often survive on less than $2 a day – where clearing the forest is regarded as the only way to generate wealth. Rich, industrialised countries can hardly criticise, as many of them went through a similar process of deforestation during earlier stages of their own development – remember that much of Britain was once covered by lush forest.

Fundamentally, deforestation occurs because the world places more value on the commodities produced from deforested land than on the vital environmental services that rainforests provide. The local returns from deforestation are specific and financial; the global benefits of preserving rainforests are diffuse and not valued in monetary terms. In the final calculation, the trees are worth more dead than alive. Unless we can find a way to rebalance this equation, and value the rainforests, the trees will continue to disappear.

Eyewitness

The immediate causes of deforestation range widely. Here a documentary maker, a photographer and a business executive report on the rainforests they know

Bruce Parry

***Former Royal Marine and presenter of BBC documentaries* Tribe *and* Amazon**

'The things I witnessed on my journey from the source of the Amazon to its mouth shocked me. This is the front line of international trade.
I met and lived with the people who produce the resources which we in the developed world unthinkingly consume.
Huge sums of money are being made with little regard for local communities or the environment. In most cases, the natural resources are simply not being replaced and the exploitation of the land is destroying the natural environment. At the same time I heard accounts of organised crime and murders that have become the everyday backdrop to the trade. Now that I have looked behind the curtain at what is going on, I'm determined to vote ethically with my wallet as well as the ballot to save the Amazon.'

Don Grubba

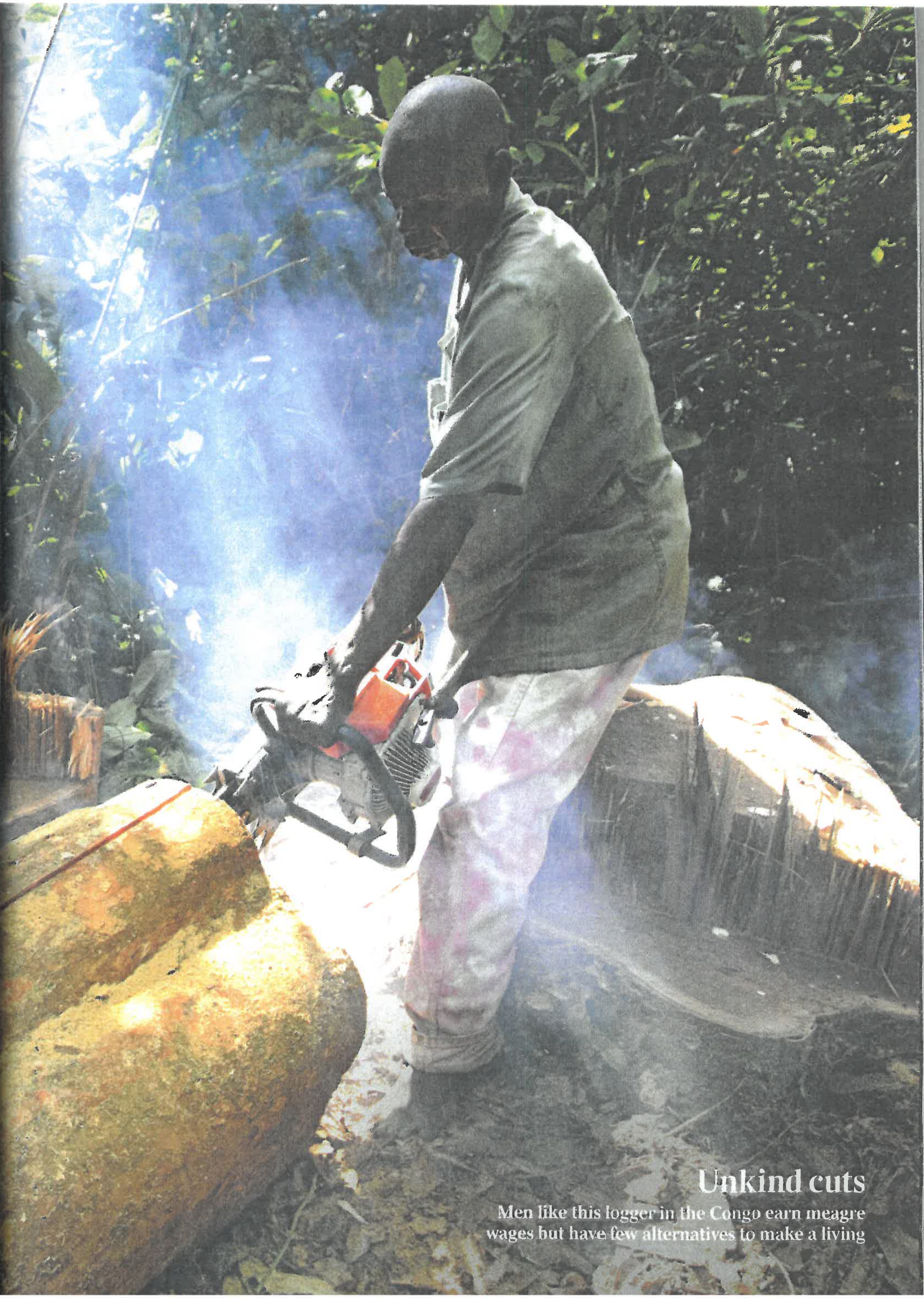
Director of IOI Group, the second largest producer of palm oil in Malaysia, and a member of the Roundtable on Sustainable Palm Oil

'From a western perspective, the tropical regions of the world are correctly viewed as a vital conservatory of biodiversity and a green lung that retains and absorbs greenhouse gas emissions. From the perspective of those living in developing economies, palm oil and other types of agriculture represent a potential first step along the pathway to a better life. The feeling of many in developing countries is that they are being asked to restrict their development in order to tackle a climate change problem largely caused by developed countries. Understanding, combined with generous listening on both sides of the discussion, is the only way forward.'

Daniel Beltrá

Winner of the Sony/Prince's Rainforests Project Photography Award. His images appear in this book

'Big logging companies have not made it to the Congo yet. The men I photographed usually work in small groups of 10 or 15 and exploit small areas. They are very poor and have little equipment – often sharing one chainsaw. They cut what they can, mostly high-value timber. Then they hack corridors through the forest, roll the logs to the river, build a raft and float the logs downstream to the nearest town, from where the most valuable logs are shipped abroad. It is hard, back-breaking work. In other countries people are making lots of money from cutting down forests; in the Congo the people are just trying not to starve.'



Unkind cuts

Men like this logger in the Congo earn meagre wages but have few alternatives to make a living

Chapter 3

The solution

The bigger picture
The still vast Amazon rainforest as seen from the air

We need to make the rainforests worth more alive than dead

A solution is possible but we must act now

An historic meeting: Earlier this year, world leaders agreed to take action on tropical deforestation

The destruction of the rainforests is an environmental problem that needs an economic solution. We *have* to find a way to make the trees worth more alive than dead. This will require a new agreement between tropical countries and the international community (though how you do your shopping can also help).

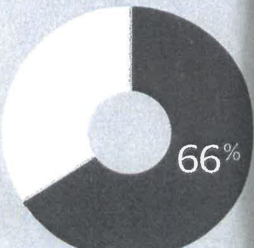
For two years, The Prince's Rainforests Project has worked with forest nations and developed countries to find a way to halt deforestation. At a meeting hosted by The Prince of Wales on April 1, 2009, world leaders agreed that rapid, co-ordinated action should be taken. This led to the creation of a Working Group, composed of more than 30 countries, which has generated more consensus on the way forward.

Ultimately, the solution for tropical deforestation will lie within the broader climate change deal that is being debated through the climate change convention of the United Nations. Negotiations will reach a climax at a critical meeting in Copenhagen in December. The convention is considering setting up a new mechanism for Reducing Emissions from Deforestation and Degradation (REDD), which could generate carbon credits for forested countries. But this arrangement will take time to come into effect. Therefore, some sort of interim package will be needed to start saving rainforests now.

Our proposal is that a new financial mechanism should be created, starting in 2009, to pay tropical forest countries for preserving their forests. In effect, the world would pay these countries for the environmental services, chiefly related to carbon, that they currently provide for free. These payments would need to be big enough to 'out-compete' the drivers of deforestation and to make it economically rational for people in tropical countries to preserve their forests.

This arrangement would be very different from traditional aid. The money would not be a handout. The international community would be paying for a service – the preservation of the rainforests – that benefits them. Most of the funding would come from the rich, industrialised nations, acting together and leveraging private capital markets where possible. Payments would be made to countries once they had demonstrated results – for example, reducing

The public supports action



A majority of UK adults agree they would be willing for their government to spend a small amount of taxpayers' money each year on preserving rainforests.

SOURCE: LIPPINCOTT, 20[illegible]

The road to Copenhagen

Critical decisions on climate change and halting deforestation must be made in December this year

1992: UN Framework Convention on Climate Change adopted

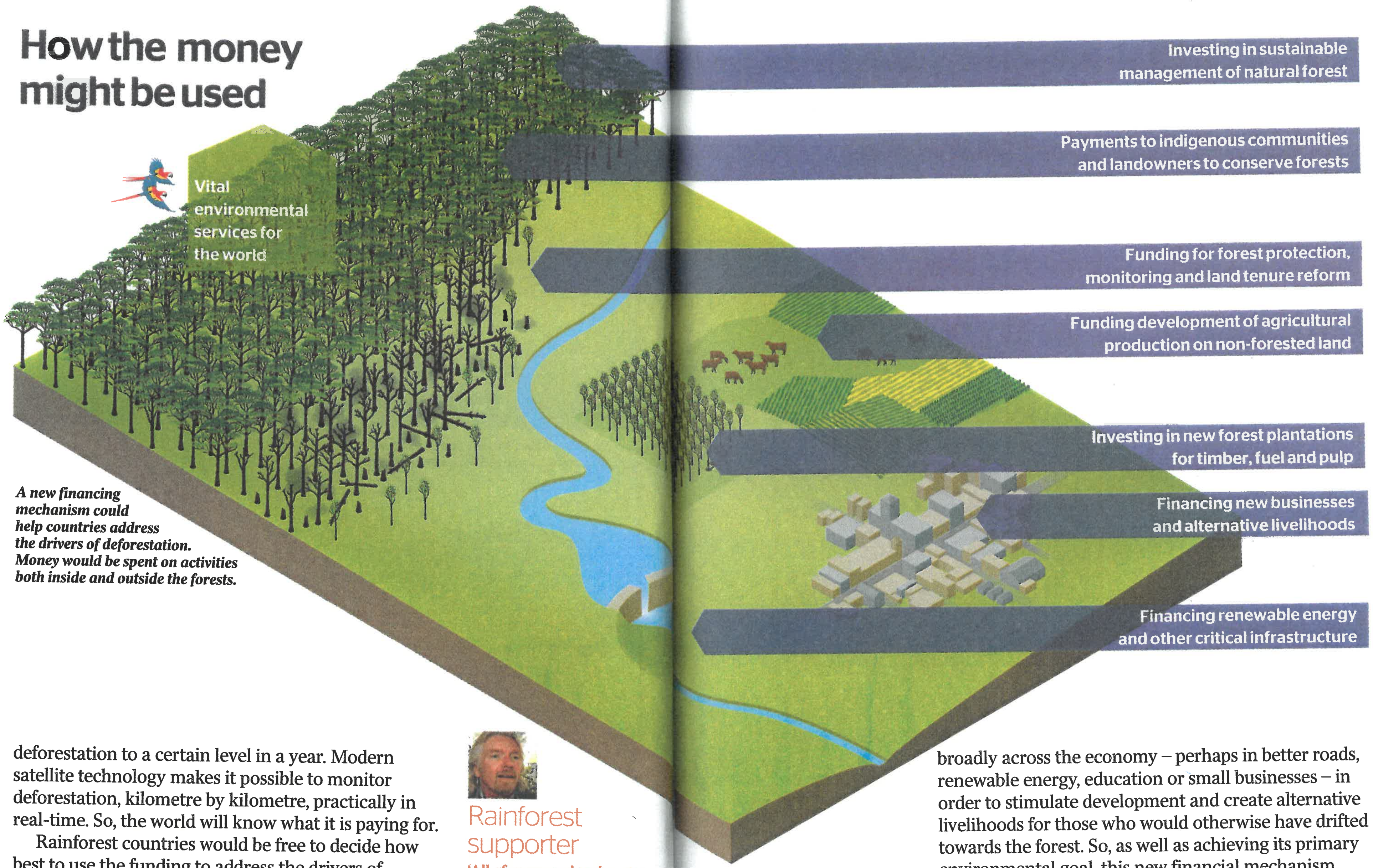
1997: Kyoto Protocol sets emission targets for developed countries for 2008-2012

2007: Bali conference agrees Road Map for negotiating 2nd phase of Kyoto Protocol

2008: 1st commitment period of Kyoto Protocol begins

2009: Negotiations on next climate change deal, including provisions for reducing deforestation, set to end at Conference of the Parties in Copenhagen in December.

How the money might be used



A new financing mechanism could help countries address the drivers of deforestation. Money would be spent on activities both inside and outside the forests.

deforestation to a certain level in a year. Modern satellite technology makes it possible to monitor deforestation, kilometre by kilometre, practically in real-time. So, the world will know what it is paying for.

Rainforest countries would be free to decide how best to use the funding to address the drivers of deforestation. Some of the money would go towards protecting and monitoring forests – more park rangers, better technology, new laws. Some would be used to intensify agricultural production and to develop commercial plantations, thus relieving the pressure on the rainforests. But funds would also be invested more

Rainforest supporter

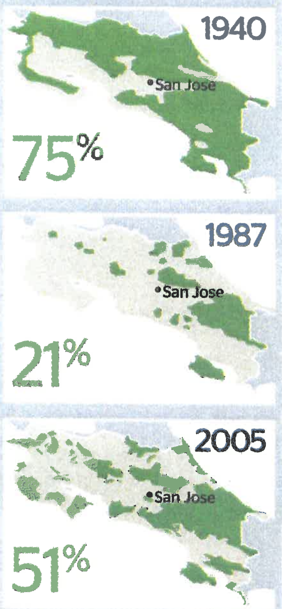
'All of us are sad and angry that the rainforests are being destroyed, but we in the West are in part to blame. We have to help the countries with rainforests to prevent their people destroying them.'
Sir Richard Branson
— Sign up, page 46

broadly across the economy – perhaps in better roads, renewable energy, education or small businesses – in order to stimulate development and create alternative livelihoods for those who would otherwise have drifted towards the forest. So, as well as achieving its primary environmental goal, this new financial mechanism would greatly improve the prosperity and welfare of developing nations, with benefits for us all.

How much would all this cost? It is has been estimated that achieving a significant reduction in deforestation could require up to €25 billion over the next five years. This sounds like a lot,

How Costa Rica bucked the trend

Forest cover in Costa Rica, 1940-2005



Costa Rica had one of the highest rates of deforestation during the 1970s and 1980s. Forest cover dropped to just 21% by 1987, compared to 75% 50 years earlier. At that point, the government, backed by the people, launched a sweeping new policy to save the remaining the forest and to encourage new planting. Today, forest cover has increased to 51%. With the right policies and incentives deforestation can not only be halted but reversed.

SOURCE: UNEP, COSTA RICA GOVERNMENT

Rainforest supporter

'Everyone, whether they're famous or not, can support this project. I know from experience – do it, and you can make an enormous difference.'
Joanna Lumley
— Sign up, page 46

until we remember what we gain in return: the UK government's Eliasch Review estimates that the benefits of halving deforestation could amount to €2.5 trillion in today's money. Now, that *is* a big number.

But there are also plenty of little things that you can do to help. Our demand for commodities is a major driver of deforestation. By choosing products that do not impinge on the forests you can create positive incentives for producers to shift to non-forested areas. There are a number of third-party certification programmes, such as those run by the Forest Stewardship Council (FSC) or the Rainforest Alliance, that designate products as 'forest friendly'. By looking out for these logos when you shop, and by urging companies to include these products in their supply chains, you can send a clear signal that rainforests must be saved.

The destruction of the rainforests is not inevitable. The example of countries such as Costa Rica shows that forest preservation and economic growth can go hand in hand when the right funding and policies are in place. But we cannot wait. Every year of deforestation spews more carbon dioxide into the atmosphere and reduces the amount of carbon dioxide that the rainforests absorb, making it harder and harder for us to stop global warming. We must take action before it is too late.

What you can do

Use your purchasing power
When you shop, you can select products that are certified as 'forest friendly'. Reputable certification schemes include FSC and the Rainforest Alliance. You can also write to companies and urge them to buy products that do not contribute to tropical deforestation

Support conservation organisations
There are many charities and foundations that are working to save rainforests. You can support them by becoming a member or by making a donation. To find out more about the type of organisations that we are working with, visit www.rainforestSOS.org

Encourage governments to take action
Tackling the causes of deforestation will require a new international financing mechanism that puts a value on rainforests. You can encourage your government to play an active role in developing such a new global scheme. Let's make it a public priority!

Eyewitness

As these different perspectives demonstrate, there is hope that with the right action, the plight of the rainforests need not be irreversible

Jared Diamond

Professor of Geography at the University of California and an expert on Papua New Guinea rainforests

'You can still take a plane flight of several hundred miles in Papua New Guinea and look down upon undisturbed rainforest, but at the rate that deforestation is proceeding, even the lowlands will be largely deforested within the next two decades. We must provide alternative funding mechanisms for local people who destroy forests because they see no other way of obtaining the money to feed, clothe and educate their children and themselves. People in other countries should buy selectively and knowledgeably, putting economic pressure on companies and countries responsible for rainforest destruction. I'm not confident that the world's current problems will have a happy ending; I merely hope that an agreement can be achieved. The world has no alternative.'

Vincente Riva

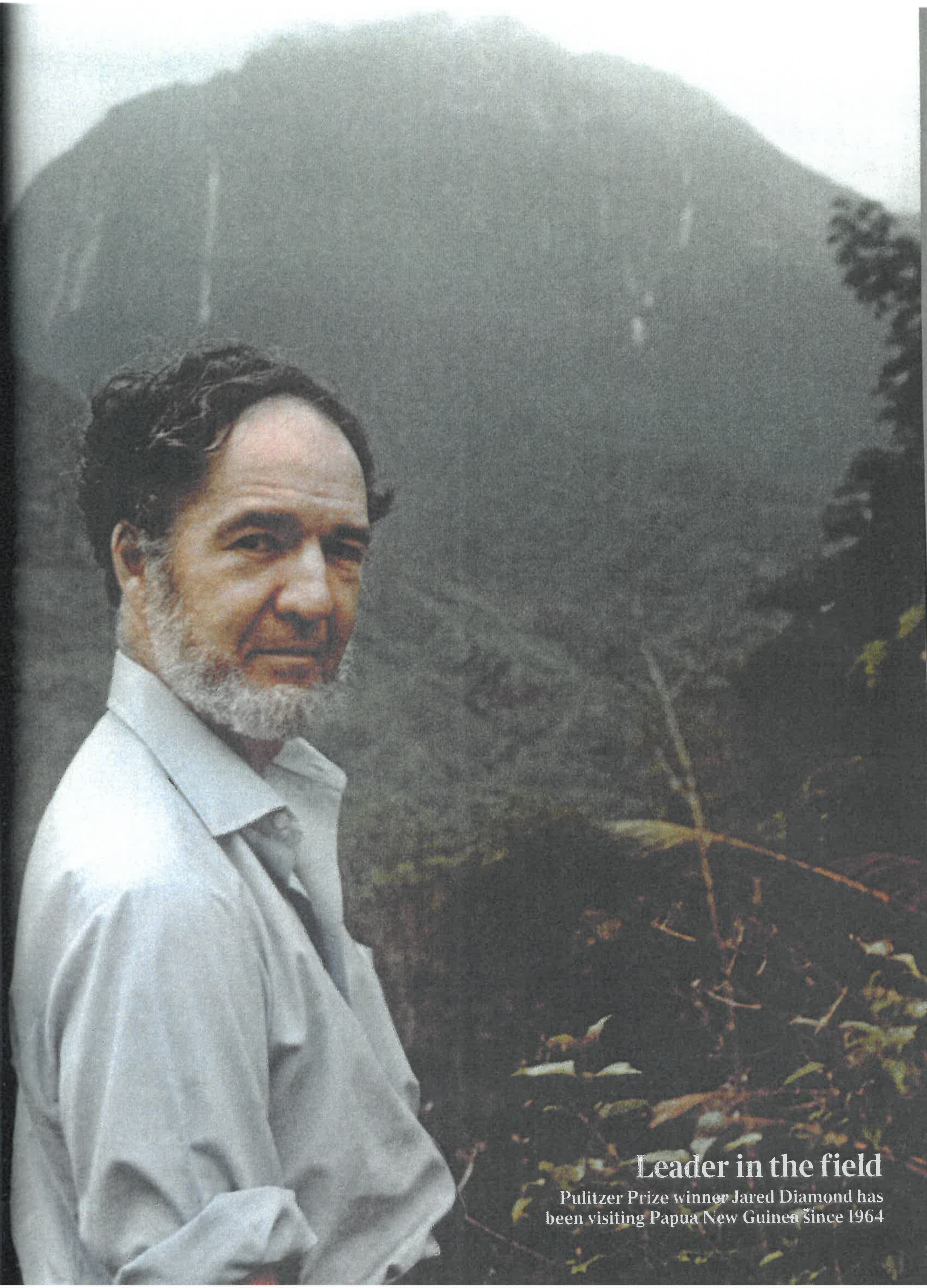
A farmer in a remote region of central-western Brazil. Half of his land is virgin rainforest

'When my family moved here in the 1970s, the government promoted the clearing of forest for the bettering of Brazil. In hindsight it is a great shame. Now local farmers support the concept of zero deforestation but if they lose the right to cut down forest they will need to be compensated. It is expensive to preserve the forest and ensure it is not cut down by others. We have been talking to an international organisation that might be willing to pay us for each hectare we keep. My wife and I want to make this work. It would give us a chance to earn from our land and still keep the precious forest.'

John Sauven

Executive Director of Greenpeace UK

'There is a growing consensus on what to do. The basic idea, proposed in Montreal in 2005 and supported by leading rainforest nations, is that developing countries that are willing and able to reduce emissions from deforestation should be financially compensated for doing so. The proposal has received broad international support, but there is significant debate over how the scheme should function. Economically, halting deforestation is one of the most cost-effective options for reducing carbon emissions. Early action to tackle deforestation is an investment that we cannot afford not to make. Money spent on halting deforestation can help us breathe just that bit easier.'



Leader in the field

Pulitzer Prize winner Jared Diamond has been visiting Papua New Guinea since 1964

Rainforest destruction is the burning issue of our time. Emergency action will be needed to prevent runaway climate change.

Have your voice heard by those who can make change happen. Send a Rainforest SOS by visiting www.rainforestSOS.org or texting SOS and your full name to 60777.*

Help us to tell the world to stop tropical deforestation.

The Prince of Wales with the project's mascot

*AVAILABLE IN UK ONLY. STANDARD NETWORK CHARGES APPLY. FULL TERMS AND CONDITIONS ARE AVAILABLE ON THE WEBSITE.

About the photographs

The rainforest photographs in this book, except where otherwise stated, were taken by Daniel Beltrá (above), an award-winning Spanish photographer who specialises in the natural environment. On April 16, 2009, he was selected for The Prince's Rainforests Project Award, a special category of the Sony World Photography Awards.

Beltrá's reward was a Sony-sponsored trip to document the impact of deforestation. Between April and July 2009, he travelled to Brazil, the Democratic Republic of the Congo and Indonesia. The photographs in this book come from this journey and from the archive of rainforest images that Beltrá has created during his career. To see more of these photographs you can visit Sony's 'Focus on the Rainforest' exhibition at Kew Gardens, London before December 6, 2009. We would like to thank Sony for their support.

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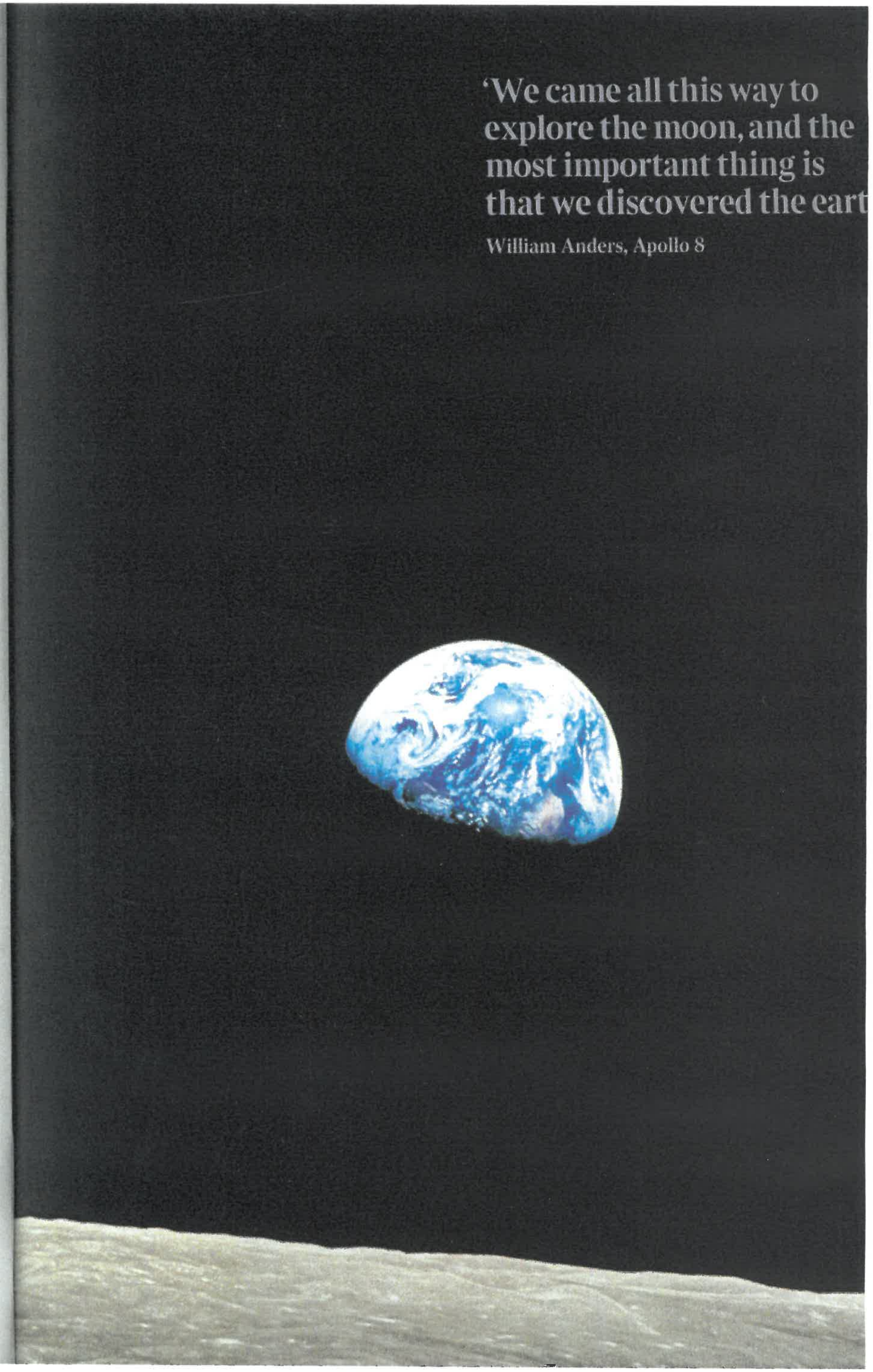
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